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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,040	12/27/2000	Ronen Zohar	42390.P10416	3337

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EXAMINER

NGO, CHUONG D

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/754,040

Applicant(s)

ZOHAR, RONEN

Examiner

Chuong D Ngo

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAIL OF ACTION

1. Claims 1-15, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the recitations "the term", line 1, lacks a proper antecedent basis.

As per claim 3, the recitations "a first rounded value", lines 3-4, is indefinite as to what is rounded. Claims 5, 10, also have similar problems regarding the recitations of "rounded value"

As per claim 4, the recitation "which is the input value (X) rounded toward minus infinity and is represented in floating-point format", lines 4-5, is unclear as what it means by rounding a floating point number. Claims 6, 8, 19, 20 also have the same problem. (Note X is floating point number)

As per claims 8 and 20, it is indefinite as to what the shifted integer X_{integer} is.

As per claim 10, it is indefinite as to what the "processing circuit or a low-order block" and the "processing circuit or a high-order block" are in the processor of claim 1 and 5.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by

another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2,5,6,8,10-12,14-17,19, and 20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Schmookler (6,178,435).

Schmookler discloses a computing system (figure 3) having a first approximation apparatus (37, see col. 4, lines 20-30) for approximating a term 2^x , a memory (21) for storing a computer program, and a central processing unit (30). The first approximation apparatus (see figure 1) including means (11), corresponding to the claimed rounding apparatus, for generating xI , as the claimed rounded value X_{integer} , means (23), corresponding to the claimed shift-left operator, for left shifting (xI) to the exponent bit positions, means (14),

corresponding to the claimed second approximation apparatus, accepting x_F , as the claimed ΔX , for generating y_F as the claimed $2^{\Delta X}$, where x_F clearly equals to $X - X_{\text{floating point}}$ as defined by the claims, means (15), corresponding to the claimed integer addition operator, for providing a result y equaling an integer addition of the left shifted x_I to the exponent bit positions and y_F as claimed.

5. Claims 7,13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmookler (6,178,435).

It is noted that Schmookler does not disclose the generation of y_F as the claimed $2^{\Delta X}$ by Horner's method. However, since Horner's method for approximating $2^{\Delta X}$ are well known in the art, it would have been obvious design choice to a person of ordinary skill in the art to apply Horner's method in generating $2^{\Delta X}$ as claimed.

6. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmookler (6,178,435) in view of Abe et al. (6,049,343).

It is further noted that Schmookler does not disclose a third approximation apparatus for approximating a term C^Z as claimed. However, Abe et al. discloses in figure 1 the same approximation. It would have been obvious to a person of ordinary skill in the art to apply the teaching of Abe et al. in Schmookler in order generating a power calculation C^Z at high speed.

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7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Abe, et al., JP 10207694 A.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D. Ngo whose telephone number is (703) 305-9764. The examiner can normally be reached on Monday-Friday from 7:30 AM to 6:00 PM.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900



Chuong D. Ngo
Primary Examiner
Art Unit 2124

09/25/03